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14. ABSTRACT This research investigated the effects of different contextual variables such as supervisor monitoring behaviors and incentive systems on individual perception of accountability for different performance components as well as the effect of those perceptions on sales performance and individual attitudes about the organization. A field study of 140 sales personnel using survey and archival data investigated the effects of behavioral and outcome monitoring and incentive systems on the perceptions of accountability in terms of what subordinates feel accountable for and the degree or intensity to which they feel accountable for those outcomes. Our overall approach was to assess how differences in management system characteristics (focusing on the operant supervisory behaviors of managers) influenced the individual assessments of sales personnel as to different outcomes for which they were accountable. We then considered how those perceptions of accountability influenced the eventual individual performance outcomes and attitudes. Implications for Navy recruiters are discussed.					
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			UU	6	19b. TELEPHONE NUMBER (Include area code) (662) 915-7751

FINAL TECHNICAL REPORT

GRANT #: N00014-01-1-0917

PRINCIPAL INVESTIGATOR: Dr. Neal P. Mero (e-mail:nmero@bus.olemiss.edu)

INSTITUTION: University of Mississippi

GRANT TITLE: The Influence of Incentives and Monitoring On the Task and Contextual Performance of Navy Recruiters

AWARD PERIOD: 1 July 2001 – 30 Sep 2002

OBJECTIVE: To investigate the effects of different contextual variables such as supervisor monitoring behaviors and incentive systems on individual perception of accountability for different performance components as well as the effect of those perceptions on sales performance and individual attitudes about the organization.

APPROACH: A field study of 140 sales personnel using survey and archival data investigated the effects of behavioral and outcome monitoring and incentive systems on the perceptions of accountability in terms of what subordinates feel accountable for and the degree or intensity to which they feel accountable for those outcomes. Our overall approach was to assess how differences in management system characteristics (focusing on the operant supervisory behaviors of managers) influenced the individual assessments of sales personnel as to different outcomes for which they were accountable. We then considered how those perceptions of accountability influenced the eventual individual performance outcomes and attitudes. A review of the relevant literature suggests that greater accountability may be felt when the management system includes both behavioral monitoring:

- Presence of others watching (or can gather information about) the behavior/outcomes
- The outcomes are identifiable as a function of the individual (linked to them personally)
- Reason giving - the individual knows he/she will be required provide an explanation or justification for the outcome

and outcome monitoring:

- There will be some evaluation of performance (requires a standard be set and the existence of some sort of consequences)

Management system characteristics were assessed using components of the operant-based taxonomy and observational index of supervisory behavior scales (Bryant & Guman, 1996; Komaki, Zlotnick & Jensen, 1986). Sales managers (assessing their own behaviors) and regional managers assessed sales manager behavior in terms of how those behaviors impacted factors that influence individual accountability. Salepeople's perception of accountability for key organizational outcomes was assessed by combining individual members' perceptions of the extent to which those outcomes were observed by others, were identifiable to them individually, required justification and were evaluated. Performance factors were evaluated by both sales managers and regional manager ratings of performance using the sales performance scales (Behrman & Perreault, 1982), actual supervisory performance ratings and objective measures such as actual sales and achievement of honors and awards. Task and contextual performance was also assessed by both raters using scales developed by VanScotter and Motowidlo (1996).

Bryant, S.E. & Gurman, E.B. (1996). Contingent supervisory behavior: A practical predictor of performance. Group and Organization Management, 21:404-413.

Komaki, J.L., Zlotnick, S. & Jensen, M. (1986). Development of an Operant-based taxonomy and observational index of supervisory behavior. Journal of Applied Psychology, 71:260-269.

Van Scotter, J. R., & Motowidlo, S. J. (1996). Interpersonal facilitation and job dedication as separate facets of contextual performance. Journal of Applied Psychology, 81: 525-531.

ACCOMPLISHMENTS: Accomplishments throughout the award period are as follows:

1. *Comprehensive literature search.* The principal investigator, co-investigators (Dr. James VanScotter & Dr. Rebecca Guidice), and two graduate research assistants conducted an intensive investigation of relevant literature in the areas of accountability, supervisory operant behavior, sales staff performance and performance assessment.
2. *Interviews and discussions with Naval Recruiting Command staff and experienced naval recruiters.* Dr. Mero, Dr. VanScotter and Jo Ann Brown (a research assistant) met with recruiting command staff. This meeting was useful in helping researchers assess the unique challenges of managing recruiter performance when senior level supervisory staff members are typically geographically separated from individual recruiting offices. It also helped identify key components of the Navy's recruiter management plan which included numerous levels of supervision and a complex system of rewards used to identify exceptional performance at both the individual, unit and regional level. Of special interest were discussions with experienced recruiter supervisors on the influence of different components of the management system (behavioral monitoring, outcome monitoring, and incentives) on recruiter performance.
3. *Determination of Research Sample.* Researchers felt a focus on Navy recruiters was advantageous for this research because 1) recruiters usually operate in locations distant from headquarters and as a result, recruiters have less direct supervision but increased objective accountability and monitoring mechanisms in place (e.g. recruiting numerical and quality quotas). 2) Recruiters face a complex environment where they are accountable to multiple constituencies including supervisors, recruiting team members, recruits and their families. 3) Recruiters have significant discretion about in-role task performance and extra-role contextual performance behaviors in their day-to-day duties. As access to naval personnel was unavailable, a study of a typical sales staff was chosen as a reasonable substitute. Numerous organizations were contacted and an agreement was reached with a sales firm that managed an approximately 200 person sales force responsible for selling industrial grade electrical components for commercial applications. This sample provided reasonable similarities with recruiter management structure. One key difference with this sample, as with all samples considered, is that financial incentives were an important outcome. This differs in important ways from naval recruiting where incentive structures do not rely on financial incentives. While this difference limits the generalizability of this research to naval recruiters, it increases its generalizability to practitioner and academic research. Nonetheless, researchers believe that the conclusions discussed below provide important relevance to naval personnel management.
4. *Research Design and Survey Construction.* The review of the relevant literature developed a model as depicted in Figure 1 (shown below). Management system characteristics focusing on specific supervisory behaviors thought to increase sales staff's accountability (including both process and output monitoring) were theorized to influence individual perceptions of accountability for different organizational outcomes. These perceptions of accountability were thought to influence the behaviors of sales staff in terms of the direction of sales staff effort (which performance components they felt were more important). This perceived accountability should be manifested in assessments of performance on each outcome. In addition, high performance on critical performance factors was proposed to be related to both job satisfaction and organizational commitment. Procedures and surveys were developed to allow, where appropriate, assessment of key components of the model by two independent sources knowledgeable of relevant management styles and sales staff performance. Assessment of sales supervisor behaviors that are the key component of the management system were completed through self-report surveys by individual managers as well as assessment by that manager's regional manager. Perceptions of accountability facets for different performance outcomes were based on a survey completed by individual sales staff. Assessments of outcome measures for sales performance as well as task and contextual performance were based on evaluation scales completed by both individual sales managers and respective regional managers. Assessment of individual attitudinal

outcomes such as job satisfaction and organizational commitment were based on surveys completed by individual sales staff.

5. *Data collection procedures.* Dr. Mero met with the sales organization's management including all regional managers and discussed the study's purpose, survey design, and the cooperation needed. Surveys were finalized to insure they used question stems understandable to all respondents. Procedures were established for: (1) distributing surveys to sales staff, sales managers and regional managers, (2) ensuring confidentiality of all responses, (3) collecting data and ensuring that surveys completed by individual sales staff was correctly associated with data from their respective sales managers and regional managers.
6. *Data Collection.* We successfully collected data from 126 subjects and partial data sets were constructed for another 34 subjects. Complete data sets are those records that include individual sales staff surveys, sales manager management style surveys, regional managers' surveys about the management styles of sales managers from their region, sales staff performance ratings from both sales managers and regional managers, and archived performance information on sale staff net sales, previous performance ratings, and receipt of organizational rewards. Where records were incomplete was because of missing data due to subject failure to complete performance ratings or the lack of archived performance information such as when the sales members were new to the organizations. Efforts continue to acquire missing performance data for the former category. Results reported here are based on the 126 completed data records.
10. *Data Management.* A database structure for the surveys from all respondents was set up. Data were entered for all 160 subjects of our study.
11. *Preliminary Data Analysis.* Preliminary data analysis included scale construction, reliability analysis, and correlation analysis. Comprehensive data analysis began upon completion of data collection.
12. *Comprehensive Data Analysis.* Data analysis began in November of 2002 and continues up to this date. Results of initial data analysis are presented below in the CONCLUSIONS section and are depicted in Figure 1.

CONCLUSIONS: The most significant results of this study are the demonstrated importance of supervisory behaviors in influencing individual perceptions of the outcomes for which sales staff are accountable, as well as the complicated role individual incentives play in influencing those perceptions. As sales is a clear outcome for sales staff, it is not surprising that management system characteristics including both behavioral monitoring and output monitoring are strongly related to sales performance. One interesting finding was that in an analysis to explain the perception of accountability for sales output, monitoring behaviors (e.g. individual incentives) became nonsignificant in models that also included the effect of behavioral monitoring. This finding provides support for the conclusion that supervisory behaviors that enhance accountability can be effective in influencing individual performance of sales staff. Additionally, the relationship between supervisory management system characteristics and perceptions of accountability appear to be influenced by individual characteristics. Sale staff who were more conscientious and who had lower external locus of control reported greater perceptions of accountability. Also of interest was the negative relationship found between greater emphasis on individual incentives and perceptions of accountability for following procedures and helping colleagues. Perceptions of accountability for sales was found to be significantly related to numerous performance outcomes including sales performance, overall task performance, work effort and both attitudes of increased job satisfaction and organizational commitment. Interestingly, accountability for following procedures and controlling expenses was negatively related to overall sales performance. Other relationships are identified in Figure 1.

SIGNIFICANCE: The changing organizational structures found in the Navy as well as other organizations has led to diffused accountabilities – accountability to multiple constituencies (commanders, team members, members of the public etc.) and for diverse outcomes (e.g. quantity and quality of recruits). *Sailor 21* identified the need for an increased basic science foundation on incentive systems for individuals and teams and their influence on productivity (pp. 16). While existing basic research has been conducted in the separate areas relevant to agency, pay-for-performance, accountability, teams, and so forth, there is little research integrating these research streams in a framework useful for addressing issues relevant to the challenges of ONRC. Our research addresses a number of issues identified in *Sailor 21*. First, this is one of the first studies that we are aware of which tested basic theories of accountability in a field setting. This adds to the relevance of the research and provides important insight into the effectiveness of different accountability mechanisms on individual perceptions about what is organizationally important. These results suggest that individual perception about what is important may significantly be a function of specific supervisory behaviors. When supervisor monitoring of performance allowed them to be aware of the performance, associate the outcome to an individual and required employees to explain processes used to achieve important organizational outcomes, that performance was higher. This is especially relevant for the Navy in the study was conducted in an organization where individuals also performed the bulk of their duties geographically separated from the supervisor. These results also suggest that while incentives can play an important role in communicating important organizational outcomes, that influence may be less significant than other specific supervisory behaviors in influencing perceived accountability. It also suggests that care should be taken in developing management programs where there is an increasingly heavy emphasis on individual incentives. In this study, individuals in units where supervisors emphasized individual incentives reported less perceived accountability for following procedures and helping colleagues. This finding is consistent with other research that suggests that individual incentives can negatively affect group cohesion and commitment to group goals.

Specific to the challenges faced by ONRC, our findings are consistent with conclusions suggested by recruiting supervisors in our discussions. It highlights the importance of supervisors such as the RinCs (Recruiter in Charge) and Zone supervisors in requiring subordinate recruiters to explain performance outcomes in terms of the process they used to achieve those outcomes and to develop tasks and goals that lead to outcomes that can be seen as a function of the specific behavior of individual and groups. In addition, the Navy could continue to review characteristics of sailors that would make them more suitable to the nature of performance demanded of recruiters. Recruiters higher in conscientiousness and who place greater importance on evaluations from others may perform better.

MANUSCRIPTS UNDER PREPARATION:

As we are still in the process of implementing the research design, no results are available for dissemination at this time. Upon completion of the study, we plan to disseminate the results in the following outlets:

1. A manuscript summarizing presenting the literature review will be submitted to *The Academy of Management Review* or *Journal of Management*.
2. A manuscript summarizing the results of the field study will be prepared and submitted to the *Academy of Management Journal* or *Journal of Applied Psychology*.

Figure 1
Overall Study Design and Identification of Significant ($p < .05$) Bivariate Relationships Between Study Variables

